CLAIMS:

1. A method of automatically transferring router functionality, characterized in that the method includes steps of:

(a) providing a data communication network including one or more candidate devices dynamically assignable as routers within the network for routing data traffic therethrough;

(b) providing watching means for monitoring activity of the one or more candidate devices and delegating authority (R_W) to one or more of the devices to provide a data-routing function thereat;

(c) arranging for each candidate device to include a first record (R_A) stored locally therein of one or more routers that it assumes to be active in the network;

(d) arranging for each candidate device to monitor the network to determine one or more routers (R_{ADV}) presently active on the network and generate a corresponding second record of active routers;

(e) arranging for each candidate device to compare its first and second records;

(f) when one or more of the candidate devices in step (e) determine the first and second records to be non-equivalent, arranging for the one or more devices to be updated with more recent first records from the watching means;

(g) when one or more of the candidate devices in step (e) determine that their own address matches that of the first records, arranging for these one or more candidate devices to assume function as routers within the network; and

(h) repeating steps (a) to (g) as required.

2. A method according to claim 1, wherein the one or more candidate devices are arranged to function as IPv6-standard routers.

3. A method according to claim 1, wherein the watching means and one or more candidate devices are operable to monitor router activity within the network in steps (b) and (d) by way of link local data advertised within the network.

4. A method according to claim 1, wherein the watching means is operable to selectively activate and deactivate one or more candidate devices in the network for resolving conflict between multiple competing routers active within the network.

5. A method according to claim 1, wherein the watching means is operable to assign one of the candidate devices in a situation where no routers are at least locally active in the network.

6. A method according to claim 1, wherein the network is a heterogeneous IPv4-/IPv6-standard network.

7. A method of operating the watching means as claimed in claim 1, characterized in that the method includes steps of:

(i) receiving at least one communication from one or more candidate devices at the watching means, the at least one communication including details of the first records of the candidate devices;

(j) checking that the first records in step (i) correspond to a record of candidate router maintained at the watching means for determining activation and/or deactivation of candidate routers;

(k) monitoring router activity at least locally within the network;

(l) updating the one or more candidate devices regarding which of the candidate devices are to be active and which are to be inactive; and

(m) updating the record of candidate router maintained at the watching means.

8. A communication network including one or more candidate devices operable to function as routers according to the method of claim 1.

9. A candidate device operable as a router according to the method of claim 1.

10. A router monitoring device including watching means operable according to the method of claim 7.